

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of treating and breaking down tight emulsions, comprising: injecting the emulsion with an oxidizing or reducing agent; changing the temperature of the emulsion; maintaining the changed temperature for a predetermined period of time, wherein said maintained temperature change, in combination with said injected agent, causes reduced interfacial tension and chained scission of the oil molecules, said chained scission causing the molecular weight of the oil molecules to change and enhancing the final viscosity of a saleable product; allowing interfacial separation of the emulsion; and outputting a saleable product phase, a solid phase and an aqueous phase, wherein the aqueous phase has a reduction in biological oxygen demand and chemical oxygen demand levels compared to the emulsion, and wherein the solid phase is free of oil.

2. (Previously Presented) The method of claim 1, further including testing the emulsion prior to the injection to determine the quantity of the oxidizing or reducing agent, the predetermined treatment time and treatment temperature.

3. (Cancelled).

4. (Cancelled).

5. (Original) The method of claim 1, further including injecting a solubilizer into the emulsion after breakage to enhance the saleable product phase and solid phase.

6. (Previously Presented) The method of claim 1, wherein the tight emulsion is slops produced during an industrial process, the extraction of petroleum or petrochemicals and by-products of the production process treatment.

7. (Previously Presented) The method of claim 6, wherein the saleable product phase is oil with increased API gravity over the emulsion and reduction in base sediments and water, the solid phase is sand and/or base sediments, and the aqueous phase is water with reductions in dissolved solids.

8. (Previously Presented) The method of claim 1, wherein the oxidizing or reducing agent includes hydrophobic chemicals, hydrophilic chemicals or a combination thereof.

9. (Original) The method of claim 7, further including recycling the solid phase into the environment.

10. (Previously Presented) The method of claim 7, wherein the oxidizing or reducing agent is absorbed into the emulsion and strips oil molecules off the sand and water, and further wherein the oxidizing or reducing agent becomes part of the aqueous phase.

11. (Cancelled).

12. (Previously Presented) The method of claim 1, wherein the aqueous phase is further treated using an oxidizing or reducing agent and a temperature change to convert soluble material to an insoluble state and precipitate dissolved solids, and then the dissolved solids are extracted, thereby leaving a residue and a clean effluent.

13. (Original) The method of claim 12, wherein the clean effluent is water that complies with international environmental effluent discharge substance parameters.

14. (Original) The method of claim 12, wherein the residue is recycled into the environment thereby closing the environmental loop.

15. (Currently Amended) A method of treating an effluent, comprising:
injecting the effluent with an oxidizing/reducing agent;

NICHOLAS, D.
Appl. No. 10/505,281
December 27, 2007

changing the temperature of the effluent;
maintaining the changed temperature for a predetermined period of time, wherein
said maintained temperature change, in combination with said injected agent, causes
reduced interfacial tension and chained scission of the oil molecules, said chained
scission causing the molecular weight of the oil molecules to change and enhancing the
final viscosity of a saleable product;

converting soluble material to an insoluble state and precipitating dissolved solids;
and

removing the dissolved solids from the effluent, thereby leaving a residue and a
clean effluent, wherein the removed solids are free of oil.

16. (Previously Presented) The method of claim 15, further including testing the
effluent prior to the injection to determine the quantity of the oxidizing/reducing agent,
predetermined treatment time and treatment temperature.

17. (Cancelled).

18. (Original) The method of claim 15, wherein the clean effluent is water that
complies with international environmental effluent discharge substance parameters.

NICHOLAS, D.
Appl. No. 10/505,281
December 27, 2007

19. (Original) The method of claim 15, wherein the residue is recycled into the environment thereby closing the environmental loop.

20. (Original) The method of claim 19, further including using the residue in the construction industry.